CAREX CONJUNCTA (CYPERACEAE) VERIFIED FOR ARKANSAS, AND NOTES ON THE RANGE OF *CAREX OKLAHOMENSIS*—Species of *Carex* subgenus *Vignea*, section *Vulpinae*, are plants of swampy sites, buffalo wallows, open-hydric roadside ditches, and wet meadows. Section *Vulpinae* is composed of about 17 species, eleven of which are widely distributed in North America (Mackenzie 1931).

Smith (1994) marked *Carex conjuncta* W. Boott as a possible addition to Arkansas but had no verifiable specimen. Its distribution has been given as New York and New Jersey to the District of Columbia, and westward to South Dakota and eastern Kansas (Mackenzie 1931). Gleason and Cronquist (1991) gave a similar distribution, New York to Minnesota and South Dakota, south to Virginia and eastern Kansas. Our collections verify *C. conjuncta* as occurring in Arkansas.

Until recently, the range of *Carex oklahomensis* was considered to be from SW Missouri (Steyermark 1963) and adjacent Kansas (Great Plains Flora Association 1991) south through western Arkansas and eastern Oklahoma to northeastern Texas (Mackenzie 1931; Jones et al. 1991). *Carex oklahomensis* was considered a hybrid by Smith (1988, 1994), and not mapped for Arkansas, but many Arkansas records for *C. stipata* belong here. This species is now known from Mississippi (Bryson et al. 1992, 1994). Reported here are recent collections extending its range to southeastern Missouri and into the "Boot Heel," and one isolated collection from western North Carolina. Almost all of the recent eastern records, including all the Mississippi records, are from along roadsides, suggesting that the species has recently spread eastward, rather than having been merely overlooked. *Carex oklahomensis* should be watched for in other southeastern states.

Both of these species are members of subgenus *Vignea* section *Vulpinae* and are characterized by distigmatic flowers, lenticular achenes, compound sessile androgynous spikes, and bidentate perigynia with beaks no more than half the length of the perigynial body.

Carex conjuncta grows to over one m tall with cespitose, erect but soft and easily crushed, somewhat spongy, winged, scabriously margined culms. It grows in damp woods and shady creek banks. The dorsal leaf sheaths are green with septate nodules; ventral leaf sheaths fragile, white with scattered red dots, and cross rugulose.

Carex oklahomensis is a loosely cespitose, stout, erect sedge growing to over one meter tall. Its habitat includes open wet sites, usually in calcareous or basic soils, and it is a facultative to obligate heliophyte. Its blue-green dorsal leaf sheaths with conspicuous white dots without septate nodules are characteristic. The perigynia are relatively short beaked in contrast

to most species of section *Vulpinae*. In western Missouri, where some native prairies have been preserved, this taxon is frequently found in what appears to be historic buffalo wallows, however, it can also be found in open-hydric roadside ditches and along streams through prairies. In southeast Kansas, we found this plant along open-hydric roadsides.

As used in the following key, incomplete veins are veins that do not extend from the base of the perigynia to the apex. A heliophyte is a plant that is normally found in full sun; a sciophyte is a plant normally found in the shade. Although, all taxa are not in all states the following artificial dichotomous key is for section *Vulpinae* in the southeastern United States.

KEY TO *CAREX* SECTION *VULPINAE* IN THE SOUTHEASTERN UNITED STATES

1. Beaks of perigynia shorter than the body
   2. Perigynia somewhat abruptly contracted into a beak ca. 1/2 the length of the perigynia body, ventral surface of perigynia with several incomplete veins basely; culms sharply triangular and narrowly winged, somewhat spongy and easily crushed; dorsal leaf sheath green; ventral leaf sheath with scattered red dots, transversely rugose; sciophytes ..... *C. conjuncta*
   2. Perigynia tapering into a beak, much shorter than the perigynia body, ventral surface of perigynia with several inconspicuous complete veins; culms inconspicuously triangular to roundish without wings, not spongy and not easily crushed; dorsal leaf sheath dark blue-green with conspicuous white dots; ventral leaf sheath without scattered red dots, not transversely rugose; heliophytes ..... *C. oklahomensis*
1. Beaks of perigynia as long as or longer than the body
   3. Ventral leaf sheath margins with orange-red dots; achenes ovate-lanceolate; perigynial wall adhering to achene ..... *C. crus-corvi*
   3. Ventral leaf sheath margins without orange-red dots; achenes broadly ovate to ovate-orbicular; perigynial wall little to not at all adhering to achene
      4. Ventral leaf sheath transversely rugose, ± convex at apex and prolonged upward past the base of the blade, friable; [this includes *C. uberior* (C. Mohr) K. Mackenzie = *C. stipata* var. *maxima* A. Chapman] ..... *C. stipata*
      4. Ventral leaf sheath not transversely rugose, ± concave at apex and not prolonged upward past the base of the blade, thickened, not friable ..... *C. laevivaginata*

Specimens collected: (*Carex conjuncta*) ARKANSAS. **Benton Co.**: NE side of Osage Creek and US 412/AR 68, E of Siloam Springs, mesic woodland edge along berm of creek, elev. ca. 335 m, 26 May 1994, *S. & G. Jones 11139* and *A. A. & S. A. Reznicek* (BRCH, MICH, UARK). N side I-412, on E side of Osage Creek, ca. 9 mi E of Siloam Springs, sect. 33, T18N, R32W, 4.1 mi W of the Washington Co. line, wet creek bottom pasture meadow, elev. ca. 335 m, 26 May 1994, *A. A. Reznicek 9792* and *S. A. Reznicek, S. D. Jones*, and *G. D. Jones* (BRCH, MICH, MO, UARK). Associated species included other *Carex* spp., *Elymus* spp., *Juncus*, *Scirpus*, *Scleria*, *Plantago*, *Laportea*, *Festuca*, and *Verbesina*.

Specimens collected: (*Carex oklahomensis*) MISSOURI. **Dunklin Co.**: E side Co. rd 203,

NW, sect. 22, T22N, R82, ca. 7 mi NW of Campbell, 22 May 1993, *A. A. Reznicek et al. 9432* (BRCH, ctb, KNK, MICH, MO). **Stoddard Co.**: Dudley, Crowley Ridge Roadside Park, along N side rte. 50, 22 May 1988, *Naczi 1962* (MICH); S side of US 60, 1.4 mi W of jct with Co. rd TT at Dudley, 22 May 1993, *Reznicek et al. 9420* (BRCH, ctb, KNK, FTG, GENT, MICH, MO, VDB, VPI). NORTH CAROLINA. **Graham Co.**: along road to Joyce Kilmer Memorial Forest, 7.6 mi from jct with Hwy 129 at Robbinsville, 15 May 1984, *Reznicek & Reznicek 7339* (MICH, NCU, NY).

—Stanley D. Jones, Botanical Research Center, BRCH Herbarium, P. O. Box 6717, Bryan, TX 77805-6717, U.S.A. and A. A. Reznicek, MICH Herbarium, University of Michigan, North University Building, Ann Arbor, MI 48109-1057, U.S.A.

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